



Climate Science

Nature, Skill Level: 2

[http://wiki.pathfindersonline.org/w/Adventist Youth Honors Answer Book/Nature/Climate Science#h. Geoengineering](http://wiki.pathfindersonline.org/w/Adventist_Youth_Honors_Answer_Book/Nature/Climate_Science#h. Geoengineering)

1. What is climatology?

2. Research and create a graph showing the trends in temperature changes during the last 1,000 years by century.

A large, empty rectangular box with a thin blue border, intended for the student to create a graph showing temperature trends over the last 1,000 years.

3. Briefly describe the following terms as they relate to climate science and its impact on the environment:

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| a. Climate change | |
| b. Greenhouse gases | |
| c. Fossil fuels | |
| d. Habitat | |
| e. Carbon dioxide (CO₂) | |
| f. Emissions | |
| g. Sea-level rise | |
| h. Geoengineering | |
| i. Deforestation | |

4. Discuss what type of education is required for a career related to climate science.

5. Identify and define at least 10 climate science career disciplines:-

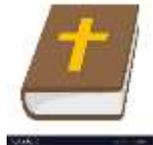
1. Environmental Scientist & Engineers
2. Water Scientist & Engineers
3. Soil and Plant Scientist
4. Animal Scientist
5. Food Scientist & Technologist
6. Hydrologist
7. Climatologist
8. Recycling & Waste Management
9. Electrical Vehicle Manufacturing
10. Atmospheric Scientist

6. With another person or as an online group, discuss the biblical context of the following texts as it relates to our responsibility to care for our environment:

a. Genesis 2:15

b. Numbers 35:33-34

c. Ezekiel 34:18



d. Jeremiah 2:7

7. Research and discuss some concerns of changing weather patterns that have been highlighted by climatologists as they relate to rising global temperatures.

- Melting ice caps – polar regions of Earth are melting
- Rising sea levels – a result of melted ice and glaciers
- Stronger storms - due to warmer water temperatures, we have more frequent and stronger storms sometimes forming into hurricanes.
- Polluted air – as a results of ground level ozone from cars and factories alike

8. With reference to the graph created in question 2, show there have been changes in the climate in the past based on the following factors:

a. Natural factors that change climate:



b. Human factors that change climate:



9. Based on your research of current events concerning climate science, discuss its impact and effects on wildlife and marine life.



a. Wildlife:

b. Marine life:



10. Individually or as a group, create one of the following poster illustrations (use a separate sheet of paper or an online editing facility such as Google Docs to work collaboratively):

a. Create an environmental poster that shows how changes in Earth's climate can affect ecosystems locally and globally.

b. Create a poster that illustrates the human impact on climate change and describes methods to reverse those effects.

11. Individually or as a group, complete one of the following:

b. Visit <https://www.stanstedairport.com/community/reducing-local-environmental-impacts/>

This airport has been analysed for its local environmental impact, evaluate how it might positively affect the climate.

| <u>Positives</u> | <u>Negatives</u> |
|------------------|------------------|
| | |

12. With another person or as an online group, discuss each of the following open-ended questions from a Christian perspective. The objective is to provide justification for your response as it pertains to our roles as conscientious Christian inhabitants of the environment.

a. How should Christians view climate change? Why

b. As Christians, do we have a greater responsibility to maintain a healthy global environment? Why?

Based on your responses, develop a plan designed to incorporate your ideas into an effective project for your church or community. Prepare to give an oral presentation on your findings and the actions that you would have taken.

Planning Notes/Mindmap:

13. There is passionate discussion about the concept of global warming which is a climate change event. What is your point of view on the subject? Please give three reasons that help you form your point of view.

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- 2.....
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- 3.....
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Pathfinder Name:

Signed:

Date: